

WHAT IS CLAIMED IS:

1. A diversity receiver having:
 - a plurality of demodulation paths for demodulating received signals and outputting demodulated signals;
 - a power ratio comparator for calculating a power ratio from a first power corresponding to a first received signal on one of the demodulation paths and a second power corresponding to a second received signal on another one of the demodulation paths, and comparing the power ratio with a predetermined threshold value;
 - a signal selector for selecting one of the demodulated signals output from the plurality of demodulation paths and outputting the selected demodulated signal;
 - an equal-gain signal combiner for combining the demodulated signals output from the plurality of demodulation paths with predetermined gains, and outputting a combined demodulated signal; and
 - a demodulated signal output unit for outputting one of the demodulated signals, either the selected demodulated signal or the combined demodulated signal, responsive to a result of the comparison in the power ratio comparator.
2. The diversity receiver of claim 1, wherein the received signals include a plurality of subcarrier components, and the demodulated signal output unit outputs one of the demodulated signals, either the selected demodulated signal or the combined demodulated signal, for each subcarrier component.
3. The diversity receiver of claim 1, wherein the threshold value used in the power ratio comparator is determined from a condition that the received-power-to-noise-power ratio value of the demodulated signal obtained

by combining the plurality of demodulated signals with equal gain equals a maximum received-power-to-noise-power ratio among the received-power-to-noise-power ratios of the plurality of demodulated signals.

4. The diversity receiver of claim 3, wherein the demodulated signal output unit outputs either the demodulated signal obtained by combining the plurality of demodulated signals with equal gain or the selected demodulated signal responsive to the power ratio and the threshold value determined under said condition.

5. The diversity receiver of claim 3, wherein the signal selector selects a demodulated signal with a maximum received-power-to-noise-power ratio among the received-power-to-noise-power ratios of the demodulated signals output from the demodulation paths.

6. The diversity receiver of claim 1, further comprising an estimated power value calculator that outputs, as said first power, an estimated power value obtained from the result of channel characteristic estimation using a reference signal contained in the first received signal.

7. The diversity receiver of claim 6, wherein:

- the first received signal is an orthogonal frequency division multiplexing (OFDM) signal modulated by an OFDM modulation system; and
- the estimated power value calculator uses a pilot signal included in the OFDM signal as the reference signal.

8. The diversity receiver of claim 1, wherein the first received signal is an OFDM signal modulated by an OFDM modulation system, further comprising:

a subcarrier power calculator that outputs a subcarrier power of a subcarrier component obtained by a Fourier transform of the OFDM signal, as said first power.

9. The diversity receiver of claim 1, further comprising a gain detector that outputs a power control signal corresponding to a gain adjustment quantity for adjusting said first power to a predetermined power level.

10. The diversity receiver of claim 9, further comprising an estimated power value calculator that outputs an estimated power value corresponding to a result of channel characteristic estimation using a reference signal contained in the first received signal as said first power, wherein:

the power ratio comparator performs the comparison by using a result of multiplication of the estimated power value by a coefficient determined by the gain adjustment quantity.

11. The diversity receiver of claim 9, further comprising: a subcarrier power calculator that outputs a subcarrier power of a subcarrier component obtained by a Fourier transform of the first received signal, the first received signal being an OFDM signal, wherein:

the power ratio comparator uses a result of multiplication of the subcarrier power value by a coefficient determined by the gain adjustment quantity as the first power.

12. The diversity receiver of claim 10 or 11, further comprising a threshold conversion table unit that prestores, and outputs to the power ratio comparator, a threshold value corresponding to the gain adjustment quantity.

13. The diversity receiver of claim 1, further comprising:

- a gain detector that outputs a power control signal corresponding to a gain adjustment quantity for adjusting said first power to a predetermined power level;
- an estimated power value calculator that outputs an estimated power corresponding to a result of channel characteristic estimation using a reference signal contained in the first received signal; and
- a pre-combination error correction unit that outputs a number of errors or an error rate obtained as a result of error correction of the demodulated signal output from said one of the demodulation paths before it is input to the demodulated signal output unit; wherein

the power ratio comparator uses the power control signal, the estimated power, and said number of errors or said error rate in comparing the power ratio with the predetermined threshold value.

14. The diversity receiver of claim 1, further comprising::

- a gain detector that outputs a power control signal corresponding to a gain adjustment quantity for adjusting said first power to a predetermined power level;
- an estimated power value calculator that outputs an estimated power corresponding to a result of channel characteristic estimation using a reference signal contained in the first received signal, as said first power;
- a pre-combination error correction unit that outputs a number of errors or an error rate obtained as a result of error correction of the demodulated signal output from said one of the demodulation paths before it is input to the demodulated signal output unit; and
- an error correction unit that outputs a number of errors or an error rate obtained as a result of error correction of the demodulated signal output from the

demodulated signal output unit; wherein
the power ratio comparator uses the power control
signal, the estimated power, the number of errors or the
error rate output from the pre-combination error correction
unit, and the number of errors or the error rate output from
the error correction unit in comparing the power ratio with
the predetermined threshold value.

15. A diversity receiving method including a plurality of demodulating processes for demodulating a received signal and outputting a demodulated signal, comprising the steps of:

calculating a power ratio from a first power corresponding to a first received signal in one of the demodulation processes and a second power corresponding to a second received signal in another one of the demodulation processes, and comparing the power ratio with a predetermined threshold value;

selecting one of the demodulated signals output from the plurality of demodulation processes and outputting the selected demodulated signal;

combining the demodulated signals output from the plurality of demodulation paths with predetermined gains, and outputting a combined demodulated signal; and

outputting one of the demodulated signals, either the selected demodulated signal or the combined demodulated signal, responsive to a result of the comparison in the step of calculating.